

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-23. (Cancelled)

24. (Original) An infusion device for delivering infusion medium to a patient and for receiving infusion medium from a hollow needle during a fill or re-fill operation, the device comprising:

a housing having a reservoir portion for containing a volume of infusion medium and an outlet through which infusion medium may be dispensed; and

an inlet structure provided in fluid flow communication with the reservoir portion of the housing, the inlet structure having an inlet opening, a septum, a moveable valve member and means for imparting a force on the valve member to urge the valve member against the septum;

wherein the septum has a side disposed in relation to the inlet opening, to seal the inlet opening;

wherein the valve member is disposed on the opposite side of the septum relative to the side of the septum that seals the inlet opening, the valve member being moveable between a first state in which the valve member contacts the septum and a second state in which the valve member is spaced from the septum to define a volume space between the septum and the valve member;

wherein the moveable valve member has a first surface for contacting the a tip of a needle passed through the inlet opening and the septum to move the valve member to the second state; and

wherein upon the valve member being in the second state, the distance between the first surface of the valve member and the septum is no greater than about 0.075 inch.

25. (Original) A device as recited in claim 24, the first surface of the moveable valve member having a depression for receiving a tip of a needle passed through the inlet opening and the septum, the depression in the first surface of the valve member having a depth within the range of about 0.01 inch and about 0.05 inch.

26. (Original) A device as recited in claim 25, wherein the depression in the first surface of the valve member has a depth of no more than about 0.03 inch.

27. (Original) An infusion device for delivering infusion medium to a patient and for receiving infusion medium from a hollow needle during a fill or re-fill operation, the device comprising:

a housing having a reservoir portion for containing a volume of infusion medium and an outlet through which infusion medium may be dispensed; and

an inlet structure provided in fluid flow communication with the reservoir portion of the housing, the inlet structure having an inlet opening, a septum, a moveable valve member moveable between a first state and a second state, and means for imparting a force on the valve member to urge the valve member toward the first state;

wherein the moveable valve member has a first surface for contacting the septum when the valve member is in the first state, and wherein the septum includes at least one rib disposed to contact the first surface of the valve member upon the valve member being in the first state, for improving a seal between the septum and the valve member upon the valve member being in the first state.

28. (Original) A device as recited in claim 27, wherein the at least one rib comprises an annular rib.

29. (Original). A device as recited in claim 27, wherein:
the inlet structure further comprises a cup-shaped member in which the septum, the moveable valve member and the means for imparting a force are disposed;

the septum includes at least one second rib contacting the cup-shaped member for improving a seal between the septum and the cup-shaped member.

30. (Original) A device as recited in claim 29, wherein the septum comprises a generally disc-shaped member having an outer peripheral edge and wherein the at least one second rib comprises a peripheral rib disposed around the outer peripheral edge of the generally disc-shaped member.

31. (Original) A device as recited in claim 29, wherein the inlet structure further includes a cap member having an inner surface disposed adjacent the septum and wherein the septum includes at least one third rib contacting the inner surface of the cap member for improving a seal between the septum and the cap member.

32. (Original) A device as recited in claim 32, wherein the septum includes a central portion disposed adjacent the inlet opening to seal the inlet opening and wherein the at least one third rib comprises an annular rib surrounding the central portion of the septum.

33. (Original) A device as recited in claim 27, wherein the inlet structure further includes a cap member having an inner surface disposed adjacent the septum and wherein the septum includes at least one further rib contacting the cap member for improving a seal between the septum and the cap member.

34. (Original) A device as recited in claim 33, wherein the septum includes a central portion disposed adjacent the inlet opening to seal the inlet opening and wherein the at least one further rib comprises an annular rib surrounding the central portion of the septum.

35.-46. (Cancelled)

47. (Original) A system for filling or re-filling an infusion device, comprising:
a generally hollow needle having a generally hollow interior, a needle shaft terminating in a tip end and an opening on the needle shaft in fluid flow communication with the interior of the needle, the needle further having a converging portion between the needle shaft and the needle tip, wherein the distance between the needle tip and the needle opening is within the range of about 0.01 inch and about 0.05 inch;

an infusion device housing having a reservoir portion for containing a volume of infusion medium and an outlet through which infusion medium may be dispensed; and

an inlet structure provided in fluid flow communication with the reservoir portion of the housing, the inlet structure including an inlet opening, a septum having a first side disposed in relation to the inlet opening to seal the inlet opening, and a moveable valve member disposed on the opposite side of the septum relative to the first side of the septum, the valve member being moveable between two maximum end points of movement respectively defining a first state in which the valve member is adjacent the septum and a second state in which the valve member is spaced from the septum relative to the first state to define a volume space between the septum and the valve member;

wherein the inlet opening has a dimension large enough to allow the needle to pass through the inlet opening and through the septum to contact and move the moveable valve member;

wherein the moveable valve member has a first surface for contacting the a tip of a needle passed through the inlet opening and the septum to receive a force from the needle to move the valve member to the second state, wherein upon the valve member being in the second state, the distance between the first surface of the valve member and the septum is no greater than about 0.05 inch.

48. (Original) A system as recited in claim 47, wherein the moveable valve member has a first surface for contacting the septum when the valve member is in the first state, the first surface of the moveable valve member having a depression for receiving a tip of a needle passed through the inlet opening and the septum, the depression in the first surface of the valve member having a depth within the range of about 0.01 inch and about 0.05 inch.

49. (Original) A system as recited in claim 47, wherein the distance between the needle tip and the center of the needle opening is about 0.025 inch.

50.-55. (Cancelled)